

TRANSPORTATION PLANNING REPORT

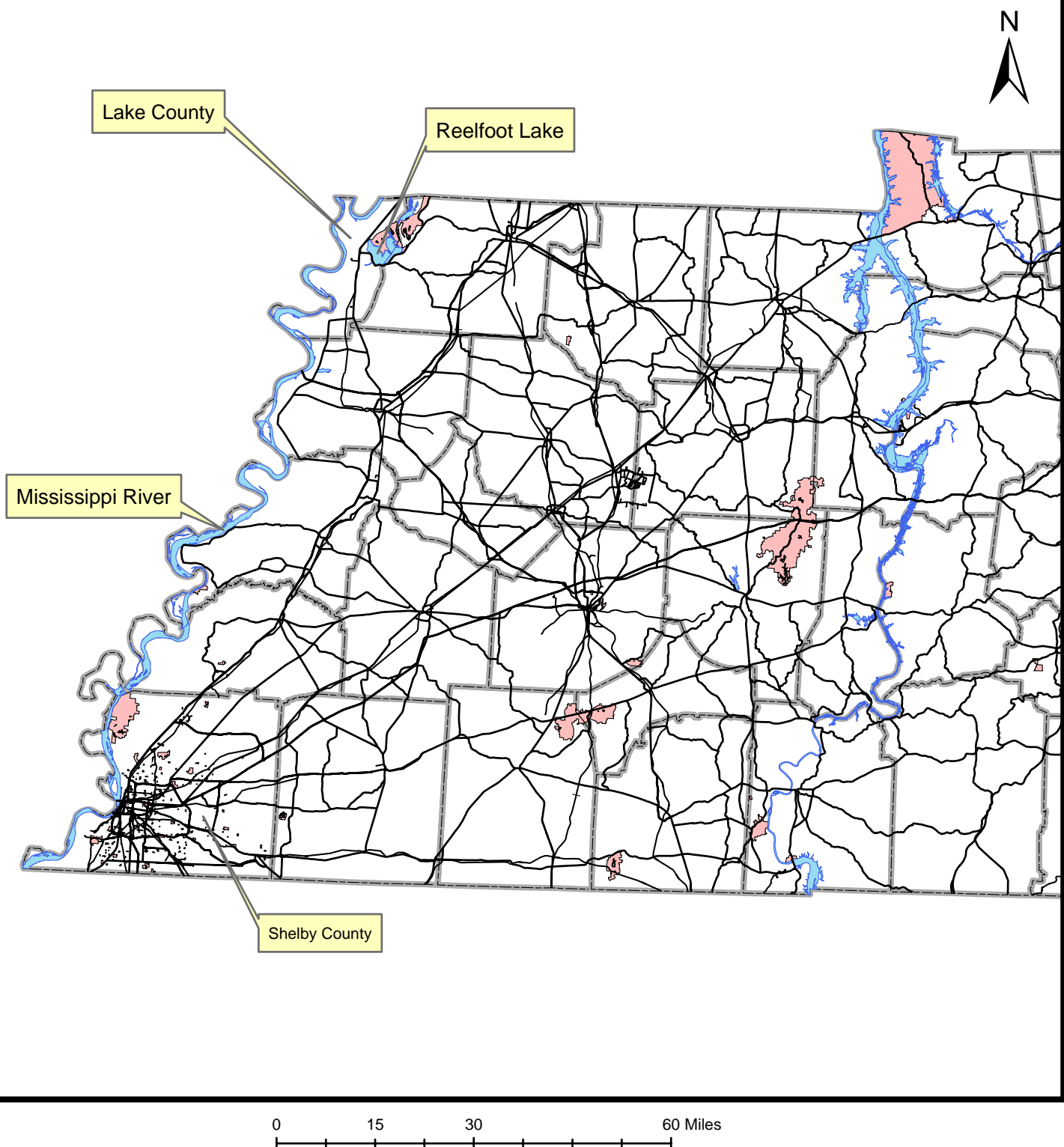
**STATE ROUTE 22
FROM STATE ROUTE 21 TO CATES LANDING ROAD
LAKE COUNTY
PIN# 107384.00**



**PREPARED BY
TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION**

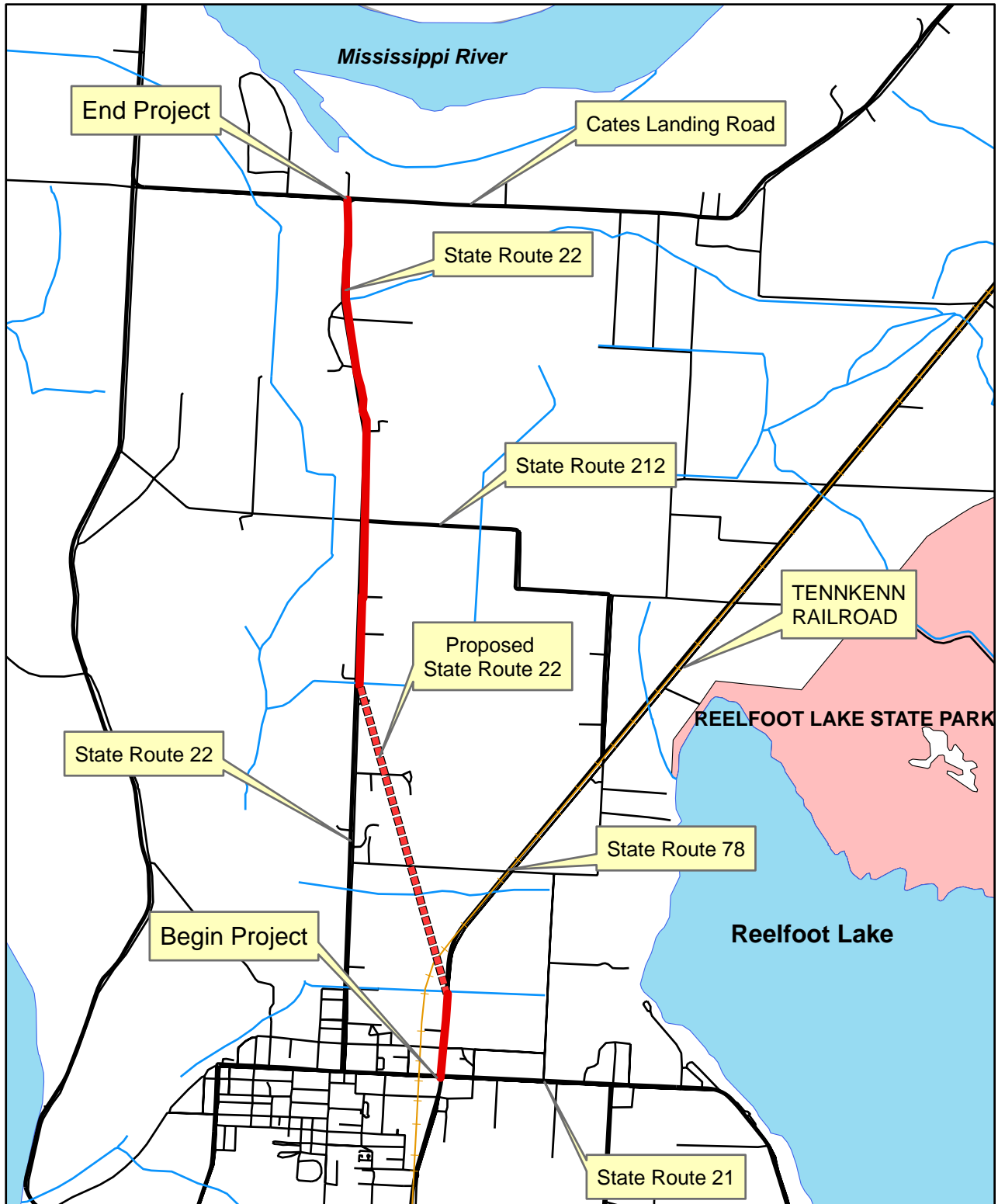
Approved by:	Signature	DATE
CHIEF OF ENVIRONMENT AND PLANNING	<i>Ed Cole</i>	6/14/07
TRANSPORTATION DIRECTOR PROJECT PLANNING DIVISION	<i>Steve Chen</i>	6-14-07
TRANSPORTATION MANAGER 2 PROJECT PLANNING DIVISION	<i>Bill Hart</i>	6/14/07

This document is covered by 23 USC § 409 and its production pursuant to fulfilling public planning requirements does not waive the provisions of § 409.



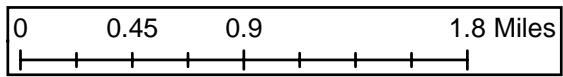
Project Vicinity Map

Lake County



Legend

- TENNKENN RAILROAD
- State Routes
- Local Roads
- Study Area



1 inch equals 0.771456 miles

State Route 22 From State Route 21 to Cates Landing Road



Legend

- TENNKENN RAILROAD
- Study Area

State Route 22 From State Route 21 to Cates Landing Road

**DATA TABLE
State Route 22
Lake County**

No Build

**From: State Route 21
To: Cates Landing Road**

EXISTING CONDITIONS

Item

Functional Class	Rural Major Collector
System Class	STP
Length - Miles	4 .65 ±
Cross Section Feet	20 / 28 / 60
Present AADT (2012)	480 - 970
Projected Future AADT (2032)	580 – 1,160
Percent Trucks	9 %
Estimated Right-of-Way Acquisition (Acres)	N/A
Estimated Business Displacements	\$ N/A
Estimated Right-of-Way Cost	\$ N/A
Estimated Utility Cost Reimbursable	\$ N/A
Estimated Utility Cost Non-Reimbursable	\$ N/A
Estimated Construction Cost	\$ N/A
Estimated Preliminary Engineering Cost	\$ N/A
Total Estimated Cost	\$ N/A

**DATA TABLE
State Route 22
Lake County**

OPTION 1

**From: State Route 21
To: Cates Landing Road**

PROPOSED

Item

Functional Class	Rural Minor Arterial	
System Class	STP	
Length - Miles	4.65 ±	
Cross Section Feet	Sec.1 24/68;	Sec.2 24/44/250
Present AADT (2012)	7,620 - 8,400	
Projected Future AADT (2032)	15,240 - 16,110	
Percent Trucks	9 %	
Estimated Right-of-Way Acquisition (Acres)	125	
Estimated Business Displacements	\$	N/A
Estimated Right-of-Way Cost	\$	1,244,000
Estimated Utility Cost Reimbursable	\$	N/A
Estimated Utility Cost Non-Reimbursable	\$	816,000
Estimated Construction Cost	\$ 17,401,000	
Estimated Preliminary Engineering Cost	\$	1,150,000
Total Estimated Cost	\$ 20,611,000	

EXISTING CONDITIONS

State Route 22 in Lake County is functionally classified as a Rural Major Collector on the State Highway system, which begins at State Route 21 and terminates at the Tennessee-Kentucky state line, a total distance of approximately 10.49 miles. The proposed project length is approximately 4.65 miles beginning at State Route 78 and extending to Cates Landing Road in the City of Tiptonville. The existing route is two-lanes, composed of two 10' travel lanes, with two 4' shoulders with ditches. These travel lanes are lane width deficient and do not meet current design standards.

The projected base year (2012) annual average daily traffic (AADT) along this route ranges from a low of 7,620 to a high of 8,400. This is based on 2005 cycle counts. The projected design year (2032) AADT traffic ranges from a low of 15,240 to a high of 16,110. Future traffic is based on the development of the Port of Cates Landing Intermodal Regional Industrial Park. The Tennessee-Kentucky (TENNKENN) railroad currently provides freight service for area industry. Trucking is also a dominant means of moving goods to from local business and industry.

COMMUNITY PROFILE

Lake County is located in the Northwest corner of Tennessee. Tiptonville is ideal for a Regional Port and Industrial Park because it is the only location on the East bank of the Mississippi River above the 100 year flood plain between Memphis, Tennessee and Cairo, Illinois. This high elevation provides for year-round slack water port operations which are immune from seasonal flooding. There is also an adjacent 2,500 acres of virgin farm land of equal elevation, which provides the venue for the Regional Industrial Park.

According to a 2005 estimate by the city of Tiptonville, the city has a population of 4,099. The unemployment rate in Tiptonville is 8.5 percent, which is higher than the statewide average of 5.2 percent for Tennessee. According to the 2000 Census data, the median household income was less than \$22,000 for the county's approximately 7,954 residents. Lake County income can be characterized as being generated from four sources; retail trade and services, industry, agriculture, and tourism. There are approximately 100 farm units that are 800 acres each by average size. Crops yield around \$9 million annually, with soybeans and wheat being the leading income producers. Local industry provides an estimated annual payroll of \$1.5 million. Tourism, centering on Reelfoot Lake, is an important income producer. Approximately \$5.4 million in tourist expenditures support an annual payroll of \$1.07 million for parks, motels, restaurants, swimming, boat docks, and more.

PURPOSE OF STUDY

The purpose of this study is to analyze existing and projected conditions to determine the need for improving State Route 22 to allow adequate access to Cates Landing Slack Water Port and improve existing geometric deficiencies. Cates Landing is

the proposed site of a slack water port on the Mississippi River. The slack water port will be adjacent to an industrial park that will house industries that benefit by close proximity to a port. The Port will be provided rail service by TENNKENN Railroad with easy connections to the main line of Canadian National/Illinois Central Railroad.

Cates Landing Slack Water Port is ideally situated as a major manufacturing and distribution hub for Mid-America. The industries within the park will generate employment for Lake, Dyer, and Obion Counties. The proposed widening for this section of State Route 22 was initiated by a request from local officials. The objective of this report is to develop recommendations for improvement and estimate the cost of project implementation.

PURPOSE AND NEED

The primary purpose and need of this project is to provide an adequate highway connection to the Port of Cates Landing Intermodal Regional Industrial Park for improved regional and local mobility. Cates Landing Slack Water Port and the Port of Cates Landing Intermodal Regional Industrial Park has the potential to greatly increase the employee and commercial traffic on State Route 22. Trucks will account for approximately 9 percent of the traffic on State Route 22 in the project area.

The economic impact of the Port Project has been analyzed by the local Port Authority as well as by the U.S. Army Corps of Engineers and the Tennessee Department of Economic and Community Development. All agree the Port will have substantial economic impact on Northwest Tennessee, Lake County, and the City of Tiptonville.

Due to the anticipated economic impact of the Port Project, the primary need on State Route 22 in Lake County will be for improved local and regional mobility in the future. Several specific needs are encompassed in this broad goal:

1. Existing transportation resources, including the Interstate 55 Mississippi River Bridge at Dyersburg, the North-South State Route 3 (U.S. Highway 51) corridor from Fulton, Kentucky to Memphis and the Mid-Continent location of the Canadian National Railroad at Dyersburg, all contribute to Cates Landing viability as a major transportation hub. With the construction of Interstate 69 along the U.S. Highway 51 corridor, the port will be accessible for interstate intermodal operation in all directions. Lake County has entered into an agreement with the Northwest Port Authority to construct additional rail lines that will provide direct access to the industrial park and port from the existing TENNKENN railroad (see appendix for a site layout map provided by Forcum Lannom).
2. Allow additional economic growth in the City of Tiptonville and Lake County by providing improvement to the transportation system. Provide a north/south route to serve demand for regional accessibility to the interstate highway system and protect that provision in the future.

3. Increase the capacity on existing State Route 22 in order to improve safety and mobility.
4. Widening needed to handle increased traffic demand spurred by Cates Landing Industrial Park, any other commercial development, and construction of new access road connecting to the existing route.
5. Addressing transportation needs through corridor planning offers many benefits and represents a new way of identifying transportation improvements throughout the state. Rather than planning on a project-by-project basis and in a piecemeal fashion, corridor planning allows TDOT to look at a larger area and develop creative, collaborative and long-term solutions to problems. Projects developed through corridor planning offer more transportation choices and are more financially responsible in a time of limited resources at all government levels.

LEVEL OF SERVICE

The character of operating conditions can be quantified by a “Level of Service” (LOS) analysis. The proficiency of roads is described by their LOS. The criteria are defined as shown in the “Level of Service” section of this report and reflect the ability of roads to accommodate motor vehicle traffic and subsequent physical and psychological comfort levels of drivers. The LOS analysis incorporates several factors including traffic volumes, number of lanes, terrain, percent of no passing zones, directional split, heavy vehicles, and shoulder widths. The projected traffic volumes for the base and design years are depicted in the Project Data Table and on the traffic schematic included in this report.

LOS is a qualitative measure that describes the character of traffic conditions related to speed and travel time, freedom to maneuver, traffic interruptions, etc. There are six levels ranging from “A” to “F” with “F” being the worst. Each level represents a range of operating conditions. General descriptions of operating conditions for each of the levels of service related to this report are as follows:

LOS Traffic Flow Conditions

- A** Free flow operations. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The general level of physical and psychological comfort provided to the driver is high.
- B** Reasonably free flow operations. The ability to maneuver within the traffic stream is only slightly restricted and the general level of physical and psychological comfort provided to the driver is still high.
- C** Flow with speeds at or near free flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted and lane changes require more vigilance on the part of the driver. The driver notices and increase in tension because of the additional vigilance required for safe operation.

- D Speeds decline with increasing traffic. Freedom to maneuver within the traffic stream is more noticeably limited. The driver experiences reduced physical and psychological comfort levels.
- E At lower boundary, the facility is at capacity. Operations are volatile because there are virtually no gaps in the traffic stream. There is little room or no room to maneuver. The driver experiences poor levels of physical and psychological comfort.
- F Breakdowns in traffic flow. The number of vehicles entering the highway section exceeds the capacity or ability of the highway to accommodate that number of vehicles. There is little or no room to maneuver. The driver experiences poor levels of physical and psychological comfort.

The projected LOS for the base year 2012 will be an acceptable LOS “C”. The “no-build” option would allow operating conditions to deteriorate to a projected LOS “E” by the design year 2032.

PROPOSED IMPROVEMENT

This report will focus on an option to realign State Route 22 to the east in order to connect to State Route 78 at the intersection of existing State Route 21 and State Route 78 in Tiptonville and provide a grade separation at the railroad crossing. The grade separation will address safety concerns; projected increase in traffic volumes and heavy trucks associated with industrial development. The remaining section of State Route 22 considered in the scope of this project will run along the existing route and will be improved to meet the purpose and need. The total length of the proposed improvements is 4.65 miles.



**Existing State Route 22
10' travel lanes with 4' shoulders**

The proposed project from State Route 21 to Cates Landing Road will be completed in entirety and be composed of two typical cross-sections.

Beginning at State Route 78 in Tiptonville and continuing for a length of 0.30± miles, the proposed typical cross-section will consist of two 12' travel lanes, a 12' continuous left turn lane, and 4' shoulders with a curb and gutter closed drainage system, on a minimum 68' right-of-way. This minimizes the impact on local businesses and historic sites located in Tiptonville.

Beginning at 0.30± miles from State Route 78 and continuing to Cates Landing Road, for a total length of 4.35±, the proposed typical cross-section will consist of two 12' travel lanes and 10' shoulders, on a minimum 250' right-of-way. This section will cross the TENNKENN railroad and include a grade separation.

The remaining right-of-way allows for the future addition of two 12' lanes and a 52' median when traffic volumes indicate the need.

Structure personnel also advised the Conceptual and NEPA Planning office that existing structures will be widened or replaced as determined by TDOT Structures Office.

A no-build option was also analyzed for this report. The no-build option as the name implies, denotes that only minor improvements (such as safety improvements and normal maintenance) would be made to the existing road and/or intersection areas. The no-build does not meet the purpose and need of the project, as it will not provide the needed capacity to handle future traffic demands of the port and industrial park development.

DISPOSITION OF EXISTING ROUTE

Existing State Route 22 intersects State Route 21 approximately one half mile west of the intersection of State Route 21 and State Route 78. It is proposed to realign the State Route 22 to the east in order to connect to State Route 78 at the intersection of State Route 21. Any portion of existing State Route 22 not utilized in the construction of the proposed improvement will be removed from the state highway system and become the responsibility of the local government.

ASSESSMENT OF OPTIONS

The Tennessee Department of Transportation has adopted seven guiding principles against which all transportation projects are to be evaluated. These guiding principles address concerns for system management, mobility, economic growth, safety, community, environmental stewardship, and fiscal responsibility. These guiding principles are discussed in the following paragraphs as they relate to the option for improving State Route 22 in Lake County.

Guiding Principle 1: Preserve and Manage the Existing Transportation System

The proposed improvements for State Route 22 are consistent with TDOT's goal of preserving and managing the existing transportation system. The increased lane and shoulder width will allow the conditions of the route to meet current design standards. The realignment of State Route 22 will allow for ease of navigation for increased heavy truck traffic due to the development of the Port and Industrial Park by providing a bypass around the central business district of Tiptonville.

Guiding Principle 2: Move a Growing, Diverse, and Active Population

The option considered in this report will provide needed capacity to address Lake County's regional travel demands. Existing transportation resources, including the Interstate 55 Mississippi River Bridge at Dyersburg, the North-South U.S. Highway 51 corridor from Fulton, Kentucky to Memphis and the Mid-Continent location of the Canadian National Railroad at Dyersburg, all contribute to Cates Landing viability as a major transportation hub. With the completion of proposed Interstate 69 along the State Route 3 (U.S. Highway 51) corridor, the port will be accessible for interstate intermodal operation in all directions.

Guiding Principle 3: Support the State's Economy

The proposed improvements for State Route 22 will serve as an attraction for industry to the Port area and allow for future residential and commercial developments in the future opportunities for Lake County residents. The anticipated industrial growth will provide increased employment.

Guiding Principle 4: Maximize Safety and Security

The safety of State Route 22 will be improved by increasing travel lane width and shoulder width to meet current design standards. The crash history of this portion of State Route 22 does not warrant any crash study or comparison with the statewide average. However, the proposed improvement will provide for improved safety for the anticipated increase in traffic volumes.

Guiding Principle 5: Build Partnerships for Livable Communities

Lake County officials, The Army Corps of Engineers, The Northwest Port Authority, and the Tennessee Department of Transportation have collaborated throughout the development process to ensure that the transportation needs envisioned by the local community are coordinated. The public involvement process will continue as mandated by the provisions of the National Environmental Policy Act (NEPA).

Guiding Principle 6: Promote Stewardship of the Environment

A detailed environmental study is needed to fully address the impact of the considered option within the Area of Potential Effects (APE). The APE is the geographic area in which an undertaking may directly or indirectly impact the environment. A more comprehensive analysis of the impacts will be completed at a later date to comply with the NEPA. This analysis will require the consideration of environmental values in the decision making process by taking into account the environmental impacts of proposed actions and reasonable alternatives to mitigate those impacts. Additional environmental disciplines such as social, economic, farmland, displacements, and land use impacts will be evaluated in the NEPA document.

Guiding Principle 7: Promote Financial Responsibility

The anticipation of increased traffic due to industrial growth in the area necessitates the purchase of right-of-way to accommodate the future four travel lanes on cross section two of the proposed State Route 22 improvement. Planning for long term solutions to issues offers more transportation choices. This facilitates more financial responsibility in a time of limited resources at all governmental levels. Table 1 summarizes the construction cost estimates for Option 1 and the no-build option.

Table 1

Summary of Cost Estimates

OPTION	NUMBER OF LANES	CONSTRUCTION, PE, ROW, & UTILITY RELOCATION COST	LENGTH
No-Build	n/a	n/a	n/a
<u>Option 1</u>			
cross section 1	3 w/ curb & gutter	\$20,611,500	0.30±
cross section 2	2		4.35±

PRELIMINARY HISTORIC SURVEY

TDOT historians have conducted a records search at the Tennessee State Historic Preservation Office (TN-SHPO). Currently there is one property listed on the National Register of Historic Places (NRHP) in Tiptonville: the Caldwell House. However, it is likely this property would be outside the area of potential effect for the proposed project.

The TN-SHPO search identified several areas that will require additional survey and research.

- Several sites were surveyed in 1979 by TN-SHPO within the proposed project area. Due to the age of the survey, each of these properties will need to be reassessed for National Register eligibility. Other properties that were not surveyed at that time might also need to be surveyed for National Register eligibility. See Historic Scoping Memo located in the appendix for more detailed information.
- The Historic Preservation Section of TDOT is currently looking for additional information about Confederate burials at Cronanville Cemetery noted with a historic marker.

Further research may indicate that some or none of the properties mentioned are NRHP eligible.

Measures should be taken in the planning process to avoid the National Register property to minimize the projects adverse effects or potential 4(f) takes. If properties are identified later as being eligible for the National Register, they will also need to be avoided to prevent adverse effects or potential 4(f) takes.

SUMMARY

This project will realign State Route 22 to the east of its current location to connect it to the intersection of State Route 78 and State Route 21, and to widen it. The remaining section of State Route 22 will run along the existing route and will be improved to meet the purpose and need.

Improvements of State Route 22 are needed to address the following needs:

1. Provides a north/south route to serve demand for regional accessibility to the interstate highway system and protect that provision in the future.
2. Provides economic growth potential for the City of Tiptonville and Lake County by improving the highway system to attract new industry.
3. Increase the capacity on existing State Route 22 in order to meet future traffic demand.
4. Provides a higher LOS for motorist comfort levels.

Option 1 will be further evaluated under future studies for horizontal and vertical alignment, right-of-way, utility adjustments, environmental mitigations, and structures. The proposed project is approximately 4.65 miles in length.

The option will improve deficiencies throughout the route. The improved roadway will also enhance access to both future commercial and residential sites along the route. Other primary benefits include: (1) improved local and regional accessibility; (2) improved operating conditions along the proposed project route; (3) increased traffic capacity; and (4) enhancement of future planned growth by local and/or regional land use planning agencies.

The primary adverse effects of the proposed build option include (1) the loss of land for right-of-way; (2) temporary construction impacts (dust, siltation, equipment noise, etc.) during the construction phase; (3) traffic noise.

As depicted in the Project Data Table, the design year 2032 LOS for the option is “C” throughout the entire proposed route. The comparable LOS for the no-build option is a deficient LOS of “E”. In addition, the disadvantages of the no-build option include continued inadequate operating conditions inherent with the increased traffic volumes. Some advantages of the no-build option include no disruption of the area due to construction and measures to mitigate environmental impacts would not be necessary.

An initial option was to widen existing State Route 22 beginning at the intersection of State Route 21 into Tiptonville and ending at Cates Landing Road. This option was rejected due to safety concerns caused by increased heavy truck volumes associated with the development and operation of Cates Landing Industrial Park. Widening existing State Route 22 would route heavy trucks through the center of Tiptonville and require trucks to negotiate an at-grade railroad crossing. This would create a safety issue for residents, businesses, truckers, and rail carriers. The option detailed in this report would divert the increased truck traffic around the east side of Tiptonville and allow sufficient distance for construction of a grade separation over the existing TENNKENN railroad and additional spur tracks servicing the proposed industrial site. The no-build option would not improve the safety or capacity on existing State Route 22 necessary to meet future traffic demands.

In conclusion, this report identifies the option to address the purpose and need. The no-build option does not meet the purpose and need. Therefore, the widening option proposed in this report should be advanced for further development under the NEPA planning process.

TENNESSEE DEPARTMENT OF TRANSPORTATION

DESIGN CRITERIA FOR LOCATION AND DESIGN PHASE

ROUTE:	State Route 22	OPTION:	1	SECTION:	
REGION:	4	COUNTY:	Lake		
LOCATION:	From: State Route 21 in Tiptonville				
	To: 0.30± mile north of State Route 21				

	20	12	ADT	7,510
	20	32	ADT	14,530
PERCENT TRUCKS	9%			
DHV (12%)	1,744			
FUNCTIONAL CLASSIFICATION	arterial			
MINIMUM DESIGN SPEED	40 mph			
ACCESS CONTROL	non			
MAXIMUM CURVE	10° 15' (SE 0.04)			
MAXIMUM GRADE	7%			
MINIMUM STOPPING SIGHT DISTANCE	305'			
SURFACE WIDTH	2 @ 12'			
NUMBER OF LANES	2			
USEABLE SHOULDER WIDTH	2 @ 12'			
MEDIAN WIDTH	12' turn lane			
MINIMUM RIGHT-OF-WAY	68' *			
SIGNALIZATION				

REMARKS: * Easement will be required outside of right-of-way.

TENNESSEE DEPARTMENT OF TRANSPORTATION

DESIGN CRITERIA FOR LOCATION AND DESIGN PHASE

ROUTE:	State Route 22	OPTION:	1	SECTION:	
REGION:	4	COUNTY:	Lake		
LOCATION:	From: 0.30± mile north of State Route 21				
	To: Cates Landing Road				

	20	12	ADT	7,620- 8,400
	20	32	ADT	15,240- 16,110
PERCENT TRUCKS	9%			
DHV (12%)	1,829- 1,933			
FUNCTIONAL CLASSIFICATION	arterial			
MINIMUM DESIGN SPEED	60 mph			
ACCESS CONTROL	non			
MAXIMUM CURVE	4° 45' (SE 0.08)			
MAXIMUM GRADE	5%			
MINIMUM STOPPING SIGHT DISTANCE	570'			
SURFACE WIDTH	2 @ 12'			
NUMBER OF LANES	2			
USEABLE SHOULDER WIDTH	2 @ 12'			
MEDIAN WIDTH	n/a			
MINIMUM RIGHT-OF-WAY	250' *			
SIGNALIZATION	n/a			

REMARKS: * For estimating purposes only. Actual right-of-way to be determined by slopes.

Preliminary Environmental Evaluation

If preliminary field reviews indicate the presence of any of the following facilities or Economic, Social and Environmental categories (ESE), place the number of facilities in the blank opposite the item. Where more than one location option is to be considered, place its letter designation in the blank.

	<u>Option</u>
1.) Hazardous Material Site or Underground Storage Tanks.....	_____
2.) Floodplains.....	_____
3.) Historical, archaeological, cultural, or natural landmark, or cemeteries.....	X _____
4.) Airport.....	_____
5.) Residential establishment.....	X _____
6.) Urban area, city, town, or community..... (Tiptonville, Pop. 4,099)	X _____
7.) Commercial area, shopping center.....	_____
8.) Institutional usages:	
a. School or other educational institution.....	X _____
b. Hospital or other medical facility.....	_____
c. Church or other religious institution.....	X _____
d. Public Building, e.g., fire station.....	_____
e. Defense installation.....	_____
9.) Agricultural land usage.....	X _____
10.) Forested land.....	_____
11.) Industrial park, factory.....	_____
12.) Recreational usages:	
a. Park or recreational area, State Natural Area.....	_____
b. Wildlife refuge or wildlife management area.....	_____
13.) Waterway:	
a. Lake.....	_____
b. Pond.....	_____
c. River.....	_____
d. Stream.....	X _____
e. Spring.....	_____
14.) Railroad Crossings.....	X _____
15.) Location coordinated with local officials.....	X _____
16.) Other.....	_____

LK-56 Cronanville Cemetery and Confederate Burials

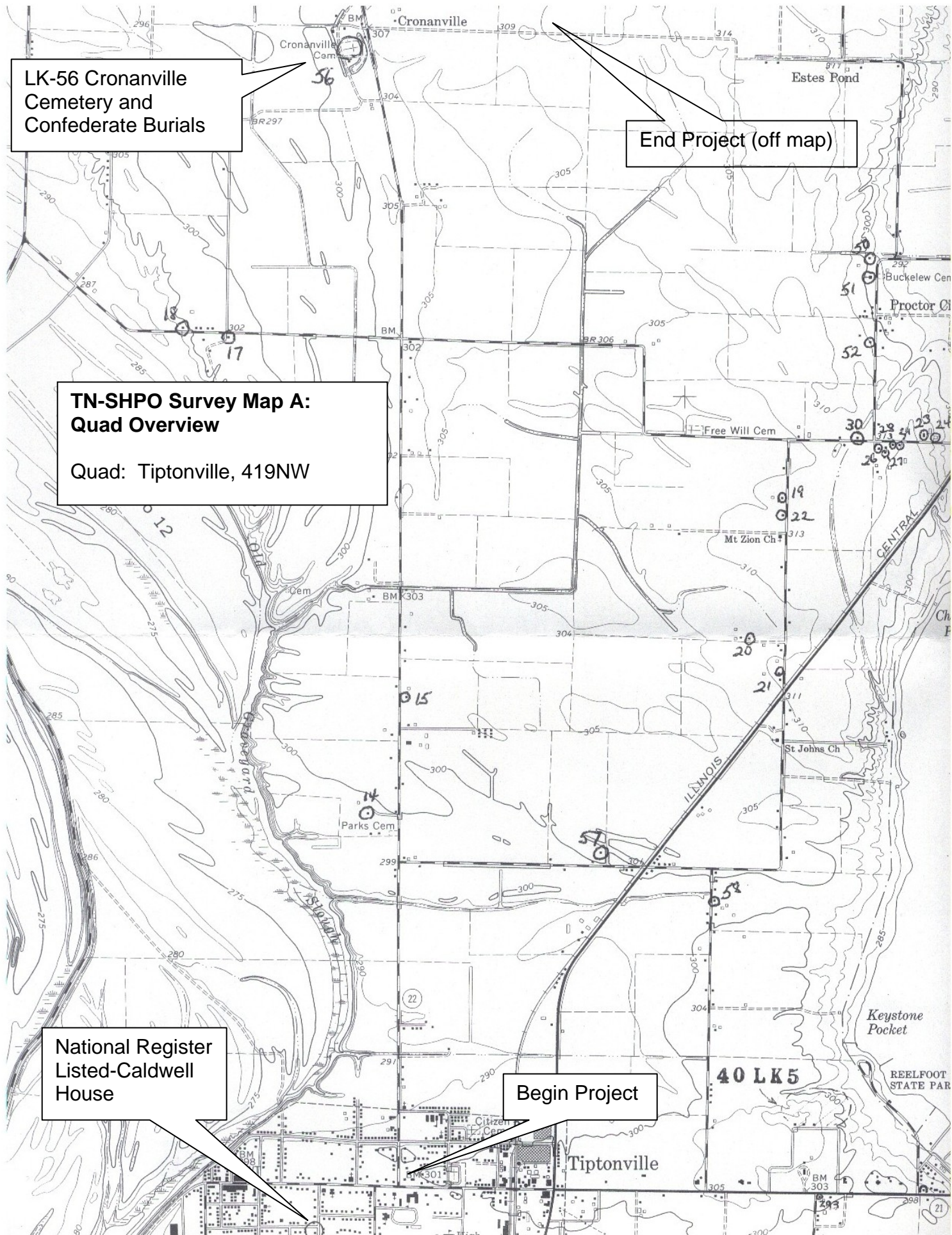
End Project (off map)

TN-SHPO Survey Map A:
Quad Overview

Quad: Tiptonville, 419NW

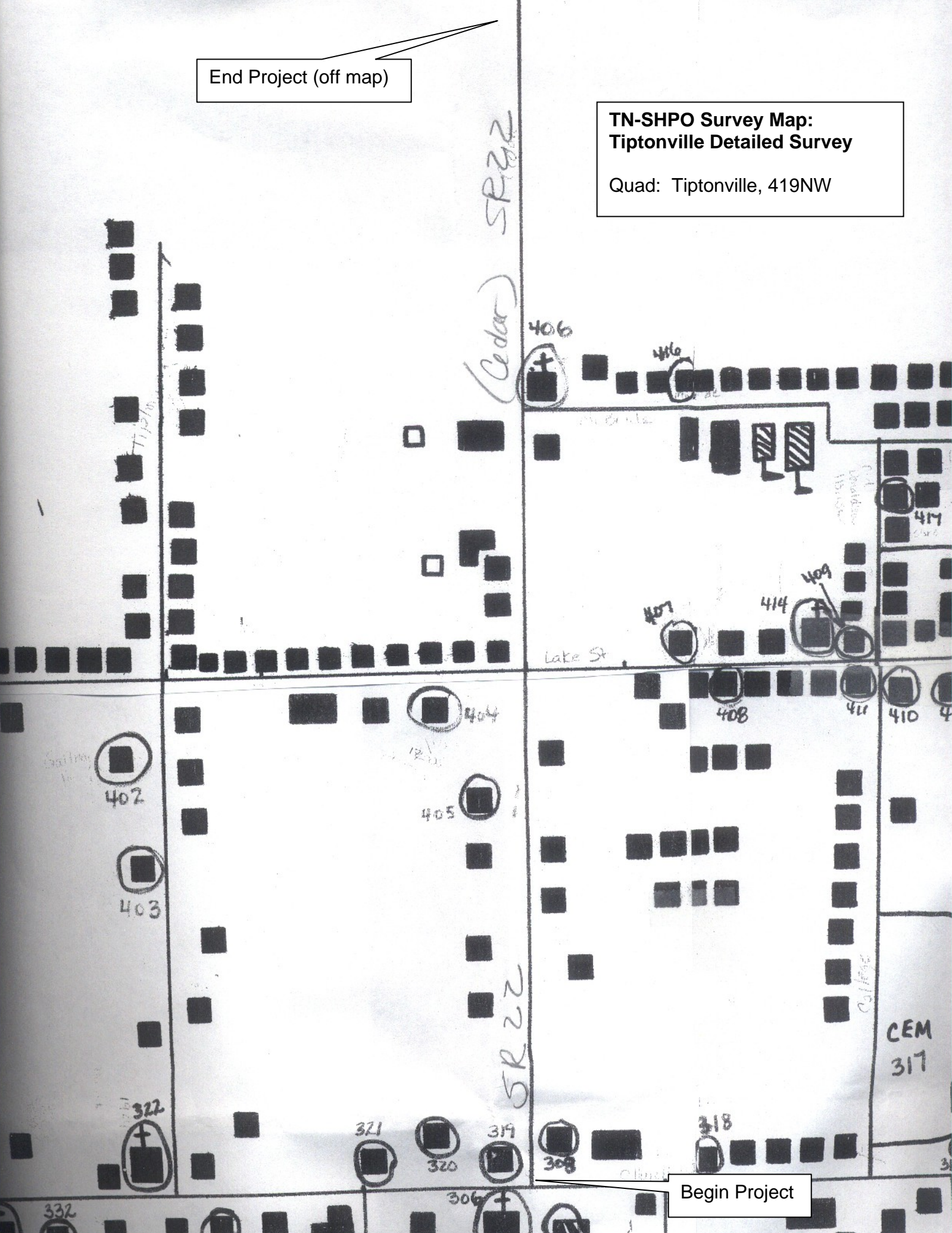
National Register Listed-Caldwell House

Begin Project



End Project (off map)

**TN-SHPO Survey Map:
Tiptonville Detailed Survey**
Quad: Tiptonville, 419NW



EST. COST DATA SHEET SR-22 in Lake County		Option 1
PROJECT: From State Route 21 in Tiptonville to Cates Landing Road LENGTH: 4.65 CROSS SECTION: 2 lane major collector		
Right-of-Way		
EST. RIGHT-OF-WAY COST		
	\$1,244,000	
Utility Relocation		
Reimbursable		
Non-Reimbursable	\$816,000	
EST. ADJUSTMENT COST		
	\$816,000	
Construction		
Clearing and Grubbing	\$200,000	
Earthwork	\$4,000,000	
Pavement Removal	\$115,000	
Drainage	\$835,000	
Structures	\$900,000	
Railroad Crossing or Separation	\$0	
Paving	\$2,905,000	
Retaining Walls	\$0	
Maintenance of Traffic	\$135,000	
Topsoil	\$70,000	
Seeding	\$50,000	
Sodding	\$20,000	
Signing	\$25,000	
Lighting	\$0	
Signalization	\$75,000	
Fence	\$0	
Guardrail	\$75,000	
Rip Rap or Slop Protection	\$100,000	
Other Construction Items (15%)	\$1,490,000	
Mobilization	\$500,000	
10% Engineering and Contingencies	\$1,150,000	
6% X 5 years = 30%	\$4,756,500	
EST. CONSTRUCTION COST	\$17,401,500	
Preliminary Engineering (10%)	\$1,150,000	
EST. SECTION COST		
	\$20,611,500	

Index Of Sheets

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTION SHEET
3 & 4	CORRIDOR STUDY
5	LOCATION MAP

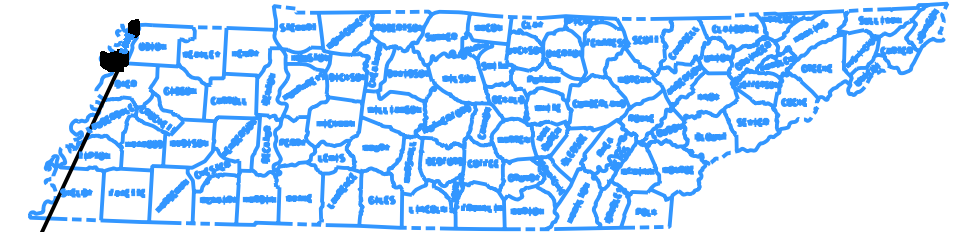
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

TENN.	YEAR	SHEET NO.
	2007	1
FED. AID PROJ. NO.		
STATE PROJ. NO.		

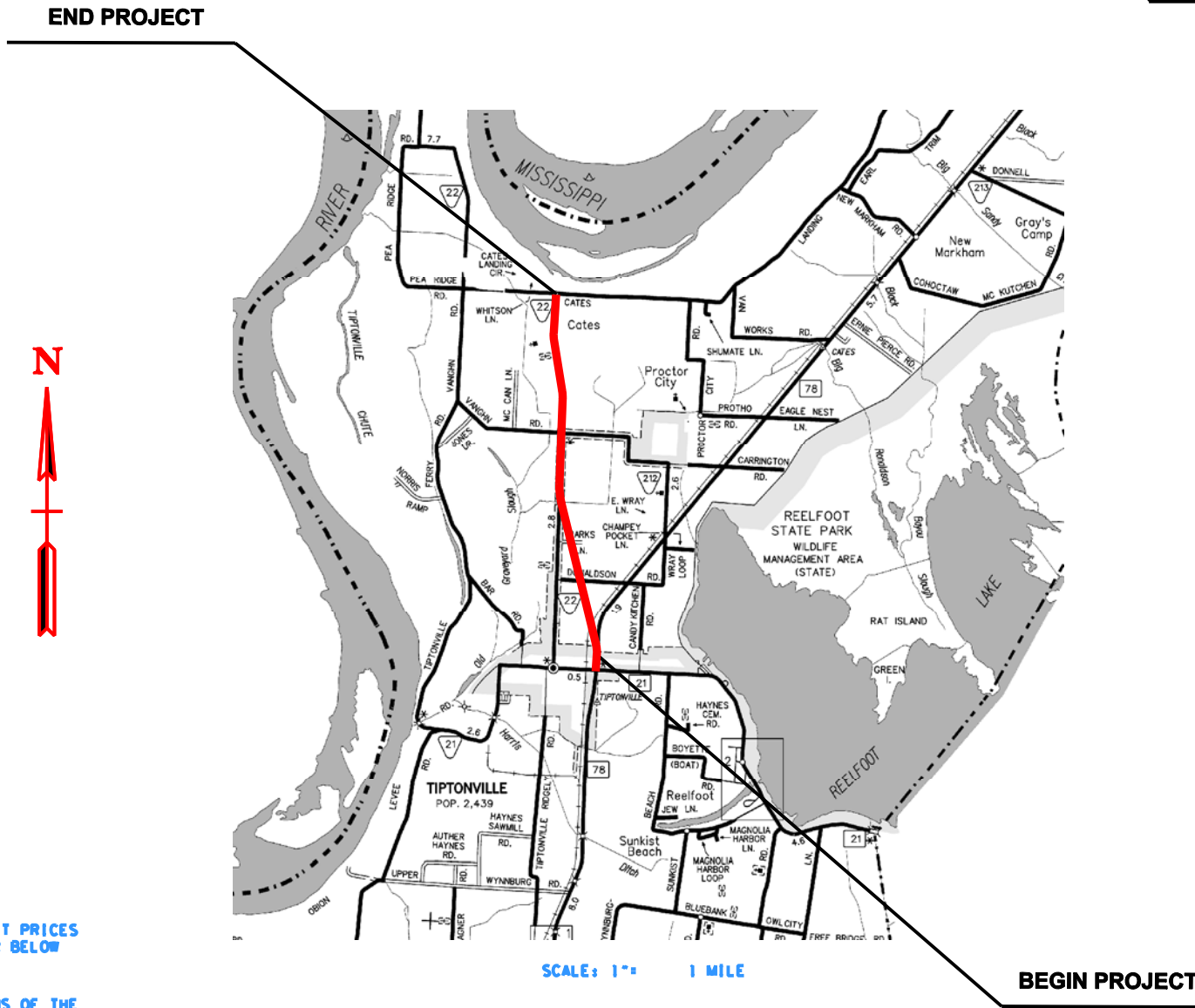
LAKE COUNTY

STATE ROUTE 22
FROM TIPTONVILLE
TO CATES LANDING

STATE HIGHWAY NO. 22 F.A.H.S. NO.



PROJECT LOCATION



SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 1995 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT

TRANSPORTATION MANAGER 1 DUDLEY DANIEL

DESIGNER DUDLEY DANIEL DRAFTER ANNE KADERABEK

APPROVED: _____
CHIEF ENGINEER

DATE: _____

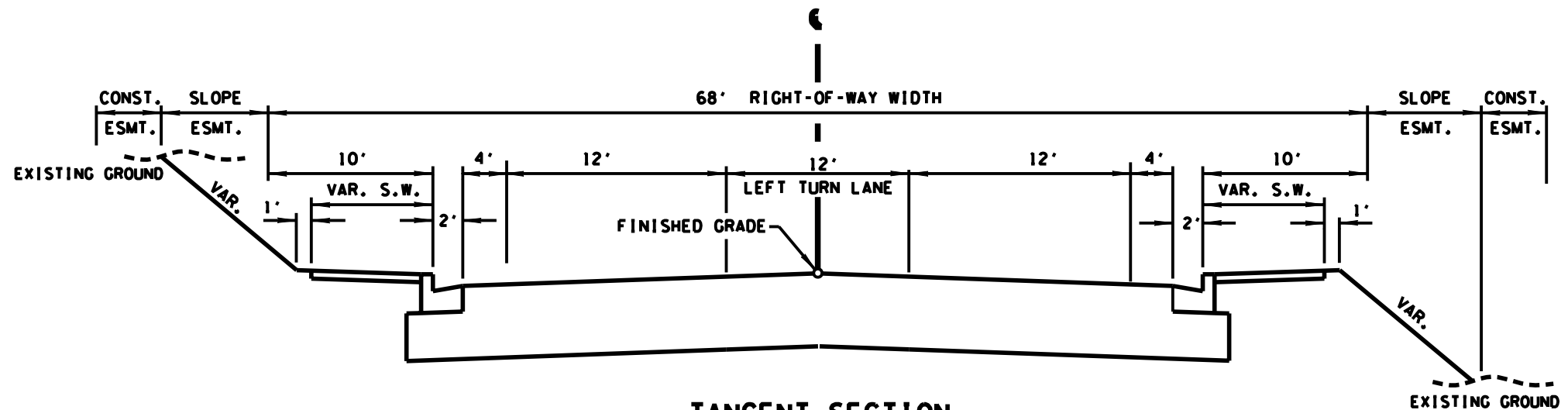
APPROVED: _____
COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

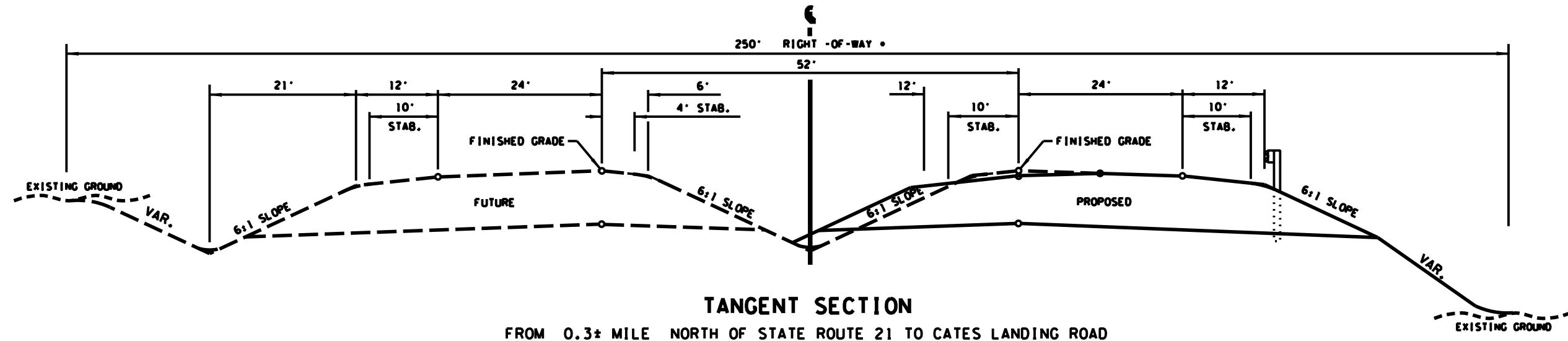
APPROVED: _____
DIVISION ADMINISTRATOR

DATE: _____

DATE	BY	PROJECT NO.	SHEET NO.
2007			2



TANGENT SECTION
FROM STATE ROUTE 21 TO 0.3± MILE NORTH OF STATE ROUTE 21



TANGENT SECTION
FROM 0.3± MILE NORTH OF STATE ROUTE 21 TO CATES LANDING ROAD

(NOTE: CONSTRUCTION STAGING TO DETERMINE FUTURE SIDE WILL BE MADE BY DESIGN DIVISION)
• FOR PLANNING PURPOSES ONLY. RIGHT-OF-WAY WIDTH TO BE DETERMINED BY SLOPES.

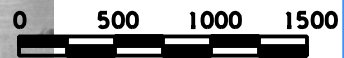
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NOT TO SCALE

DATE	BY	PROJECT NO.	SHEET NO.
2007			3



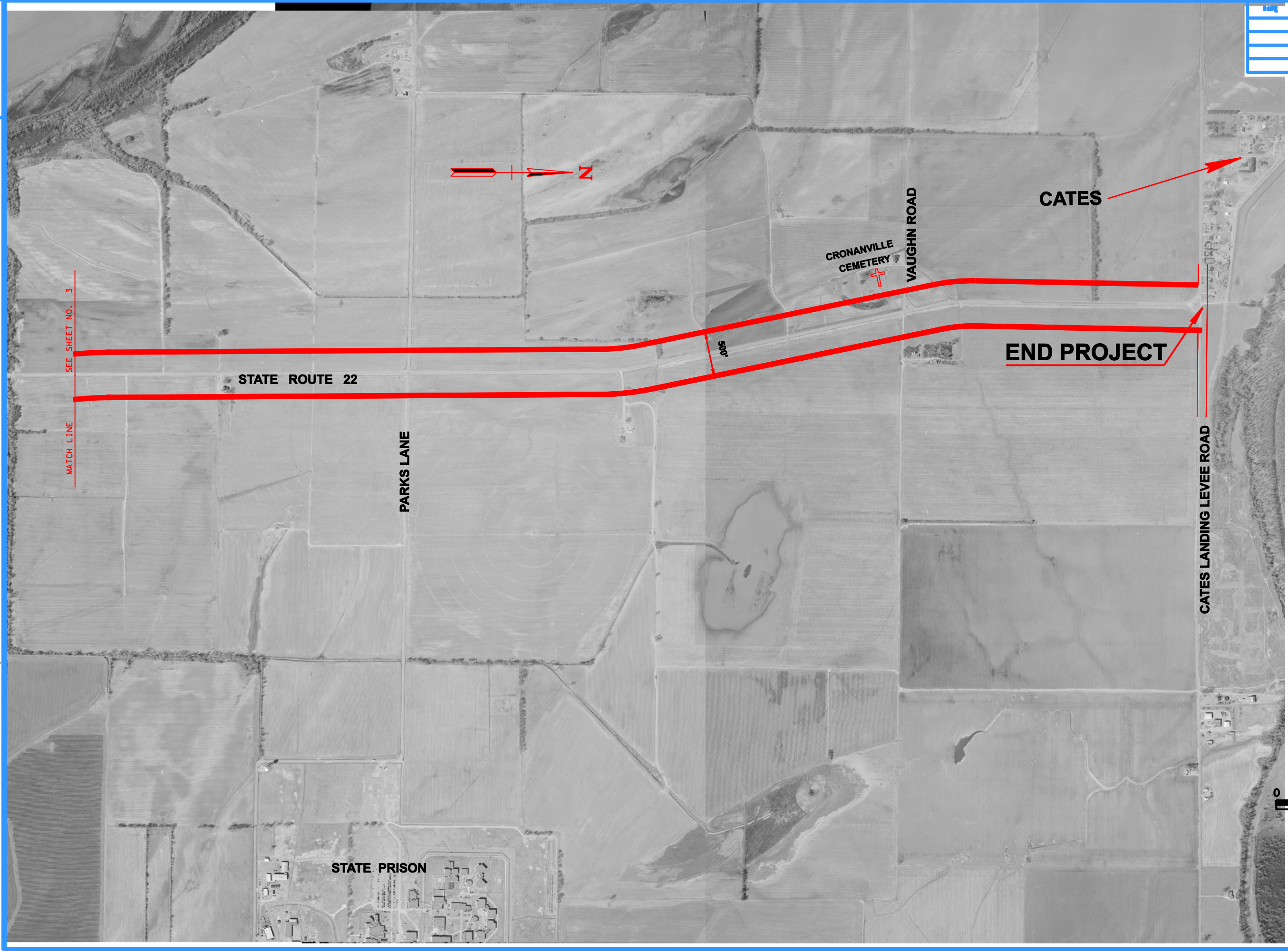
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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

LAKE COUNTY
 STATE ROUTE 22

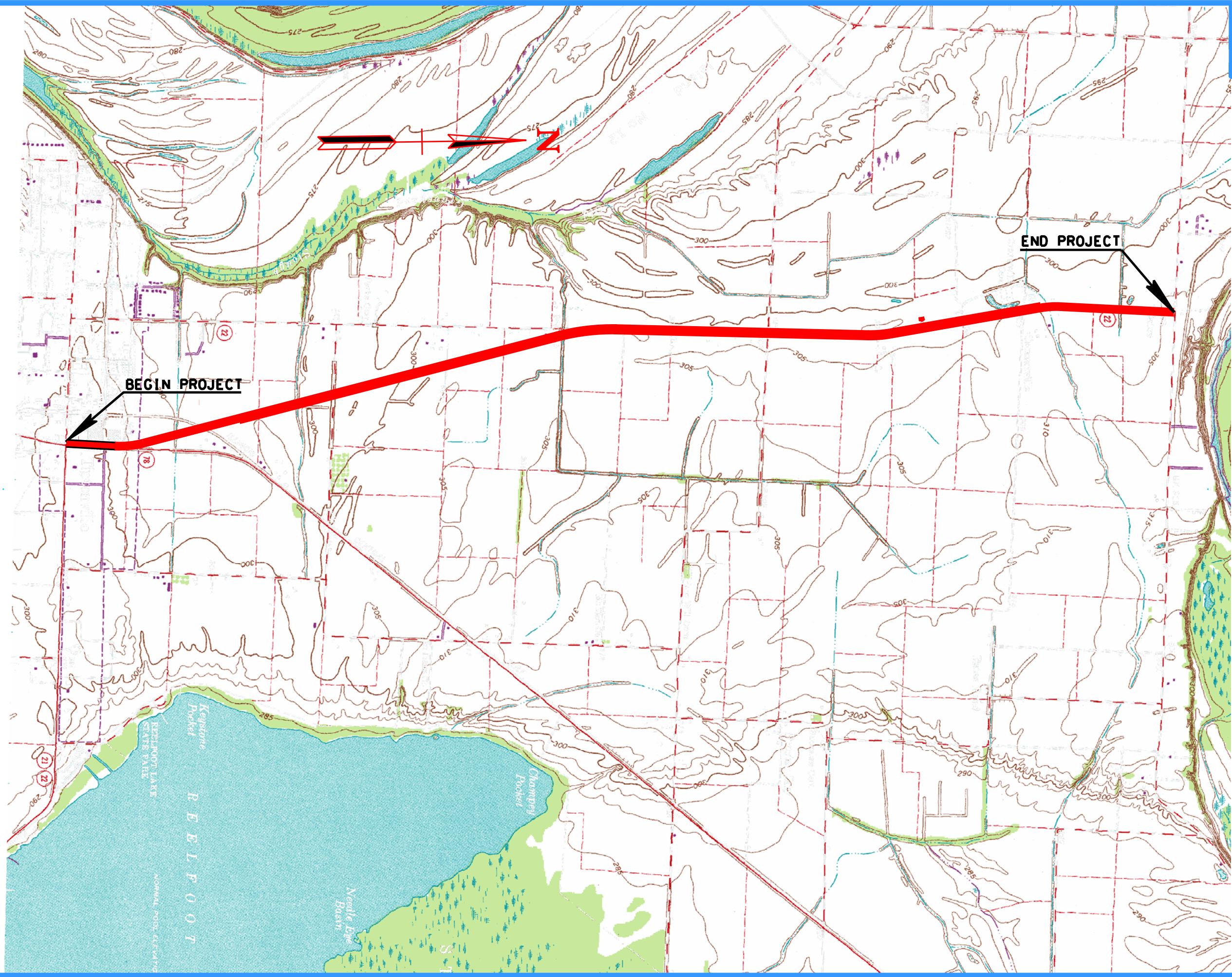
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1	2007		5



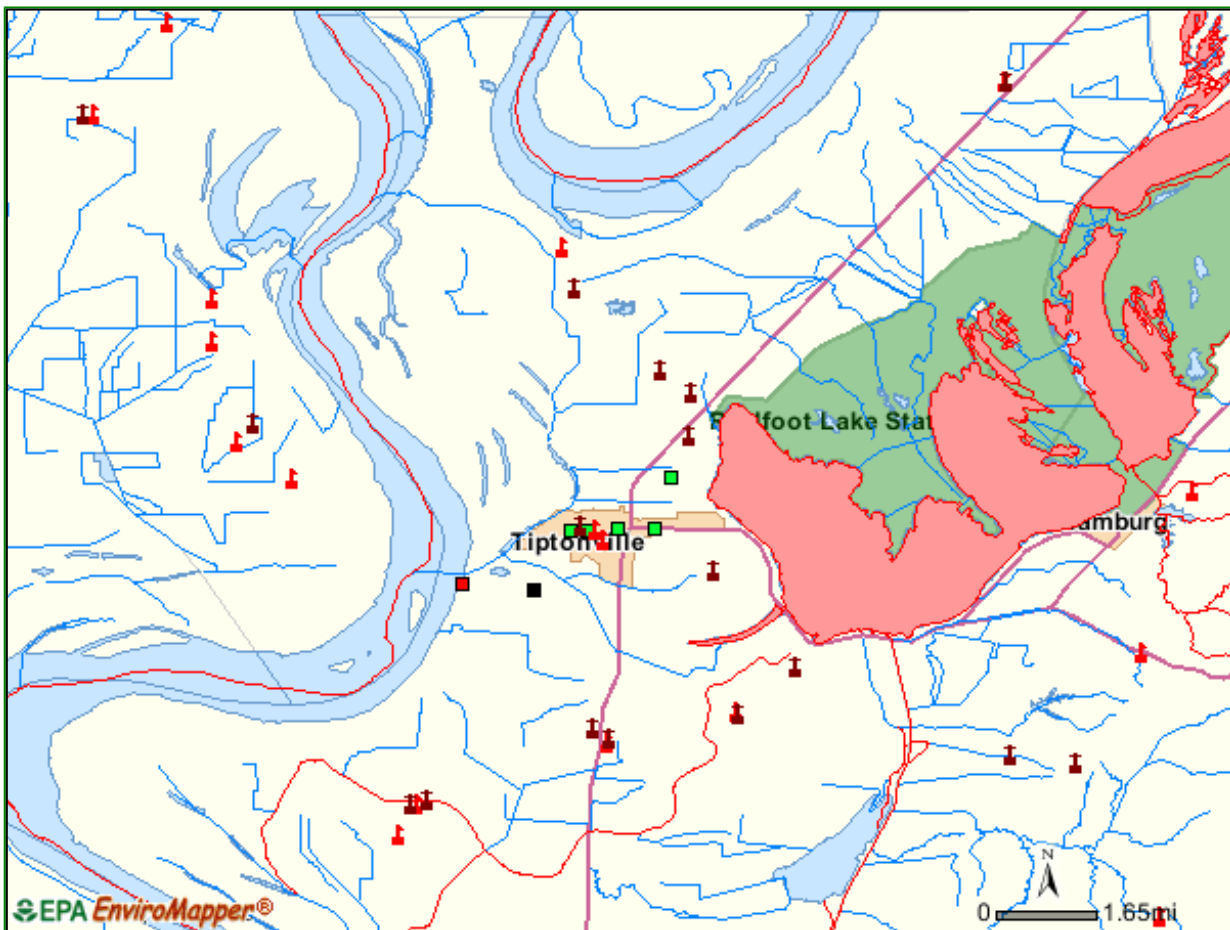
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**LOCATION
MAP**

Appendix



- Legend**
- Multi-activities
 - Superfund
 - Toxic releases
 - Water dischargers
 - Air emissions
 - Hazardous waste
 - Impaired water bodies
 - Impaired streams
 - Streams
 - ▲ Schools
 - Churches
 - Hospitals
 - Highways
 - Highways
 - Interstates
 - Major Streets
 - Ramps
 - Water Bodies
 - Airports
 - Landmark Areas
 - Military Installations
 - Prisons
 - Colleges/Universities
 - Recreation Areas
 - State Capitols
 - Professional Golf Courses
 - Cemeteries
 - Major Parks
 - National Parks/Forests
 - State Parks/Forests
 - Local Parks
 - Populated Places
 - U.S. Counties
 - Non-U.S. Land
 - Oceans and Seas

SR-22 Enviro Map

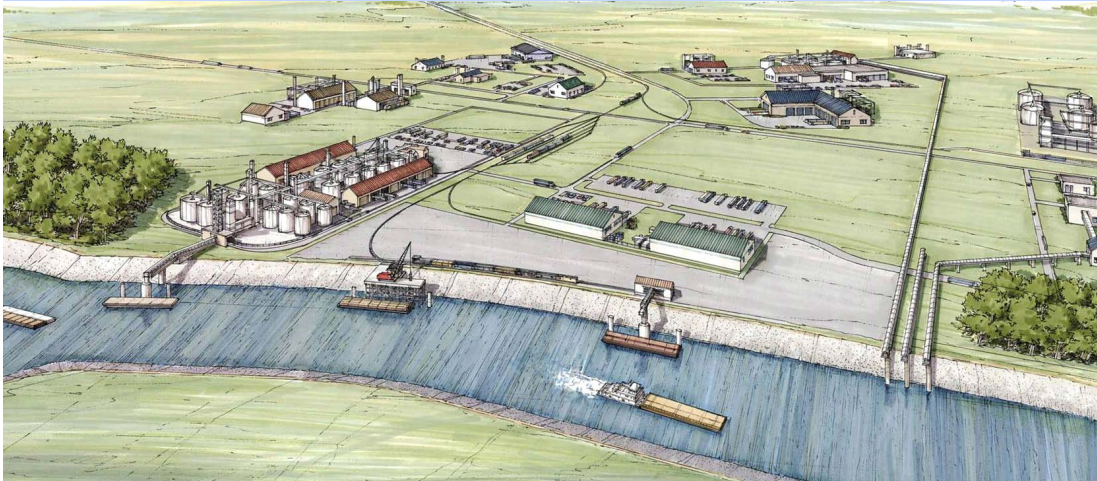
EnviroMapper For EnviroFacts



EPA does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any loss or injury resulting from reliance upon the information shown.

Tiptonville, Tennessee Port of Cates Landing Intermodal Regional Industrial Park

New Port on the Mississippi River



- Harbor Completion in 2007 and Port/Park Completion in 2008
- Expandable Intermodal Port Dock and transload facility serving barge, rail, and truck
- 9,000 linear feet of slack water Harbor operable year round (expandable to 14,000 Linear feet)
- Adjacent to over 3,000 acres of developable land available for industry use
- Direct access with proximity to all Class I railroads



For Information Contact:
www.portofcateslanding.com

Northwest Tennessee
Regional Port Authority
P.O. Box 664
Dyersburg, TN 38024
Jimmy Williamson
Chairman
(731) 287-4600
jew@despower.com

Forcum Lannom
Project Engineers
350 US Hwy 51 Bypass S
Dyersburg, TN 38024
Randall Rhodes, PE
(731) 287-4700
rrhodes@flcmail.com

Northwest Tennessee Region

- Only developable site on the Mississippi River above the 100 year flood plain between Memphis, Tennessee and Cairo, Illinois
- Close proximity to major interstates:
 - ⇒ I-55
 - ⇒ I-155
 - ⇒ I-40
 - ⇒ I-24
 - ⇒ I-69
- Mid-point along corridor connecting Canada and Mexico
- Near World's busiest Freight Airport Memphis, TN
- Site located in Tennessee Valley Authority service area



Site Map





HARBOR FOOTPRINT

PHASE ONE PORT TERMINAL

PHASE I
350 ACRES

FUTURE (PHASE II) PORT TERMINAL

PRODUCTION FACILITY

C.W. MONUMENT

PRODUCTION FACILITY

TANK FARM

Future Tank

FARM EXPANSION

PHASE II

FACILITIES

ANTICIPATED SORT & STORAGE YARD TRACK (4)

PHASE II

973 ACRES

IN YELLOW BY PORT AUTHORITY

PRODUCTION FACILITY

FUTURE BLENDING FACILITY

PHASE III

787 ACRES

PROPOSED 6000 FT. SIDING

EXISTING RAIL

Exact Route of TDOT 250 R.O.W. To Be Determined

SITE LAYOUT
Scale: 1" = 100'



DATE: 02-14-07
SHEET: AERIAL-1
FORUM LANNOM
CONTRACTOR, LLC
350 Hwy. 51 Bypass S., Dyersburg, Tennessee 38024 Ph: (731) 287-4700

**TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION**

PROJECT NO.: _____ ROUTE: S.R. 22
 COUNTY: LAKE CITY: TIPTONVILLE
 PROJECT PIN NUMBER: 107384.00
 PROJECT DESCRIPTION: FROM THE PROPOSED LAKE COUNTY PORT TO S.R. 78.

DIVISION REQUESTING:

MAINTENANCE PAVEMENT DESIGN
 PLANNING STRUCTURES
 PROG. DEVELOPMENT & ADM. SURVEY & DESIGN
 PUBLIC TRANS. & AERO. TRAFFIC SIGNAL DESIGN
 OTHER _____
 YEAR PROJECT PROGRAMMED FOR CONSTRUCTION: _____
 PROJECTED LETTING DATE: _____

TRAFFIC ASSIGNMENT:

BASE YEAR		DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
7,990	2012	15,650	1867	12	2032	70-30	6	9		

REQUESTED BY: NAME TERRY GLADDEN DATE 7-28-06
 DIVISION PLANNING
 ADDRESS 900 J. K. POLK BUILDING
NASHVILLE TN 37243

REVIEWED BY: TONY ARMSTRONG Tony Armstrong DATE 2.9.07
 TRANSPORTATION MANAGER 1
 SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: BILL HART Bill Hart DATE 2.9.07
 TRANSPORTATION MANAGER 2V
 SUITE 900, JAMES K. POLK BUILDING

COMMENTS:

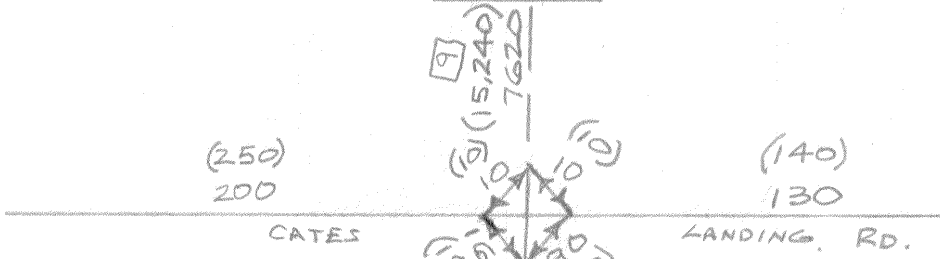
THE BASE YEAR TRAFFIC IS BASED ON 2006 CYCLE COUNTS, AND PROJECTED 3000 EMPLOYEES PROPOSED IN PHASE 1 OF THE DEVELOPMENT. THE FUTURE TRAFFIC IS BASED ON EMPLOYEES DOUBLING WHEN AND IF PHASE 2 IS COMPLETED.

DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.

NOTE: FOR BRIDGE REPLACEMENT PROJECTS, ADLs ARE NOT REQUIRED FOR AADT's OF 1000 OR LESS AND PERCENTAGE OF TRUCKS OF 7% OR LESS.

SEE ATTACHMENTS FOR TURNING MOVEMENTS AND/OR OTHER DETAILS.

PROP.
PORT



9
(16,110)
8400
S.R.

212

S.R. 78

* NOT INCLUDED
IN PROJ. AVERAGE!

9
(15,760)
8100

6
(3630)
1910

*
9
(14,530)
7510

LAKE COUNTY
TIPTONVILLE
S.R. 22
LEGEND:
2012 AADT-000
2032 AADT-(000)
AADT TRUCK % - []
DATE: FEBRUARY 8, 2007
T.A.

5
(6040)
5490

S.R. 21

5
(350)
300
OLD S.R. 22

5
(5930)
5390

5
(1030)
940
(2060)
(2270)

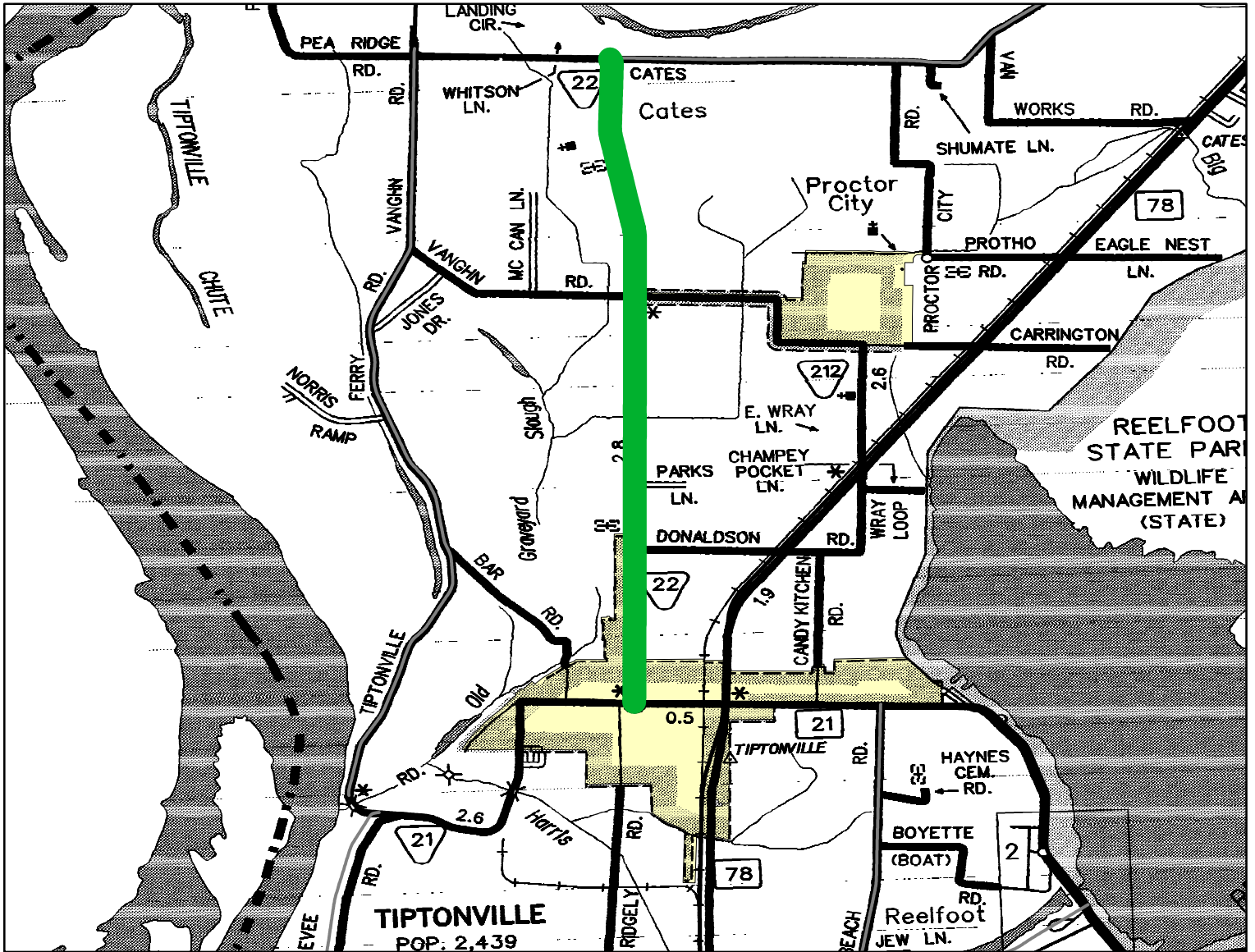
5
(5000)
18150
(550)
(610)

5
(8240)
5090
S.R. 21

TIPTONVILLE


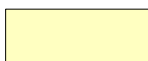
5
(1,380)
7030
S.R. 78

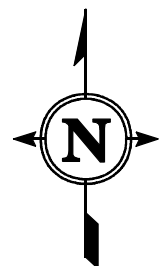
LAKE COUNTY



SR-22 (From SR-21 to Lake County Port) L.M. 0.00 - L.M. 4.50

Legend

-  Active TPR (Roads)
-  City





AUGUST 2000

ECONOMIC IMPACT

Younger Associates has performed an analysis of the probable economic impact on Dyer, Lake and Obion Counties in Tennessee from the construction of a slackwater port and the development of a 1,000-acre industrial park at Cates Landing. Based upon a model of the local economy, which uses RIMS II Input-output multipliers, the potential economic impact, jobs and new local tax revenues have been projected.

The development of the industrial park is estimated to create 3,000 new jobs directly and would result in the creation of another 2,604 jobs indirectly for a total of 5,604 jobs. Wages and benefits paid to these new jobs will result in an annual economic impact of \$206.4 million generating \$4 million in new local tax revenues annually.

New capital investments for the industrial park estimated at \$100 million will create a one-time impact of \$558,173 in new local tax revenues during the construction and set-up period.

Real and personal property taxes paid directly by the park could exceed \$1.5 million over a ten-year period, not considering tax incentives.

The investment of \$41 million for the construction of the port will generate a one-time impact of \$715,762 in local taxes.

*731-668-7367
Ext. 13 (m/f) Sharon Younger*

Cates Landing Port Economic Impact Analysis Assumptions

- **Cost to construct port facility, rail extension and utilities is projected at \$41 million.**
- **1,000 acres of land surrounding the port will be acquired and developed as an industrial park**
- **For each acre of industrial land, 3 jobs will be created and \$100,000 of capital investments will be made by private industry. These are conservative projections based on the low end of the range of historic development in Tennessee.**

See endnotes for sources and other factors used in calculations.

Industrial Park Development in Conjunction with the Proposed Northwest Tennessee Port Economic Impact Analysis

Annual Impact of Operations

Employment, Direct	3,000		
Wages & Benefits, Direct	\$ 121,830,000		POP
Employment Multiplier ¹	1.8680		LAKE = 8,000
Total Employment	5,604		DYCR = 37,000
Employment, Indirect	2,604		OBOW = 32,000
Annual Average Wage ²	\$ 32,488		TOTAL 77,000
Wages, Indirect	\$ 84,598,752		
Total Wages	\$ 206,428,752		
Sales Tax Revenue ³	\$ 1,986,877		
Other Tax Revenue ⁴	\$ 566,260		
Residential/Commercial Property Tax Revenue ⁵	\$ 1,484,363		
Total Tax Revenue	\$ 4,047,499		

**Industrial Park Development
in Conjunction with
the Proposed Northwest Tennessee Port
Economic Impact Analysis**

<u>One Time Construction Impact</u>		
Construction And Site Work	\$	50,000,000
Economic Impact Multiplier ⁶		1.4115
Economic Impact	\$	70,575,000
Equipment Purchase/Set-up	\$	50,000,000
Economic Impact Multiplier ⁷		1.4911
Economic Impact	\$	74,555,000
Total Economic Impact	\$	145,130,000
Sales Tax Revenue ³	\$	434,376
Other Tax Revenue ⁴	\$	123,797
Total Tax Revenue	\$	558,173

**Industrial Park Development
In Conjunction with
the Proposed Northwest Tennessee Port
Economic Impact Analysis**

Property Taxes Generated by Industrial Park	10 Year
Real Property	\$ 50,000,000
Assessment Rate	0.40
Tax Rate	0.0240
Annual Tax	\$ 480,000
10-Year Total Tax - Real Property	4,800,000
 Personal Property	 50,000,000
Assessment Rate	0.30
Tax Rate	0.0240
Annual Tax (before depreciation)	\$ 360,000
10-Year Total Tax - Personal Property (after depreciation)	\$ 1,508,400

Notes for Northwest Tennessee Port and Industrial Park Development Economic Impact Analysis:

1. US Bureau of Economic Analysis, RIMS II direct-effect employment multiplier for Dyer County, Tennessee. Number of Indirect Jobs Created Per Direct Job, average of aggregate multipliers for manufacturing.
2. Projection based upon data from Tennessee Department of Labor; Annual Average Wage/Salary for Manufacturing in Dyer County, 1998 based upon an assumption of 4.5% average wage increase for 1999 and 2000.
3. US Department of Labor, "Consumer Expenditure Survey, Southern US" 1997; factor applied to determine the rate of Indirect or "downstream" expenditures on sales and taxable goods and services at the local option tax rate of .0275. It is assumed all purchases associated with construction and equipment will be sales tax exempt.
4. Based upon June 1995, July 1996 collections of Business, Alcohol, Motor Vehicle and other taxes compared to sales tax.
5. U.S. Bureau Data for median value of housing in Dyer County, Tennessee. This ratio indicates the new property value created within Dyer County per each new job created in the local workforce based upon historical trend. The new property value may be new single family home, new rental property, expansions or improvements to existing property. A portion of commercial property value would also be included, however, for the sake of conservatism only the residential rate of assessment is used. Also based upon an assessment rate of 25% and Dyer County tax rate of \$2.40 per \$100 of assessed value.
6. US Bureau of Economic Analysis, RIMS II final-demand aggregate multiplier for Dyer County, Tennessee for construction.
7. US Bureau of Economic Analysis, RIMS II final-demand aggregate multiplier for Dyer County, Tennessee for wholesale trade.

*All calculations are in constant 2000 dollars. No tax rate increases are assumed.